

Next-Gen Banking with Finacle

Architectural excellence powering Finacle's
composable platform



A background image showing three people (two men and one woman) looking at a laptop screen. The image is dark and semi-transparent, with a red rectangle on the left side.

Contents

■ Moving goalposts - a deep dive into the banking landscape	3
■ Finacle offers a modern, composable digital banking platform	6
■ Eight key architectural perspectives	10
1 Solution architecture	11
2 Cloud architecture	17
3 APIs and eventing architecture	24
4 Data and AI architecture	31
5 Security architecture	37
6 Process architecture	43
7 DevOps architecture	48
8 UI/UX architecture	51
■ Next-gen banking outcomes with Finacle's architecture	55

The digital goalposts are moving rapidly in the banking world

Banking is changing. The pace of change has never been this fast, yet it will never be this slow again. The massive shift towards digitization is continually creating new orders - customer journeys are evolving, newer banking business models are thriving, and operational benchmarks are getting reset.

Customer journeys are moving beyond banking channels



>50%

Banking transactions estimated to take place over third-party digital channels in the next few years¹

Operational benchmarks are getting reset as banks evolve digital maturity



30-40 %

Estimated avg. cost to income ratio of top 1000 banks globally, in the next few years¹

Newer banking business models are thriving



20%

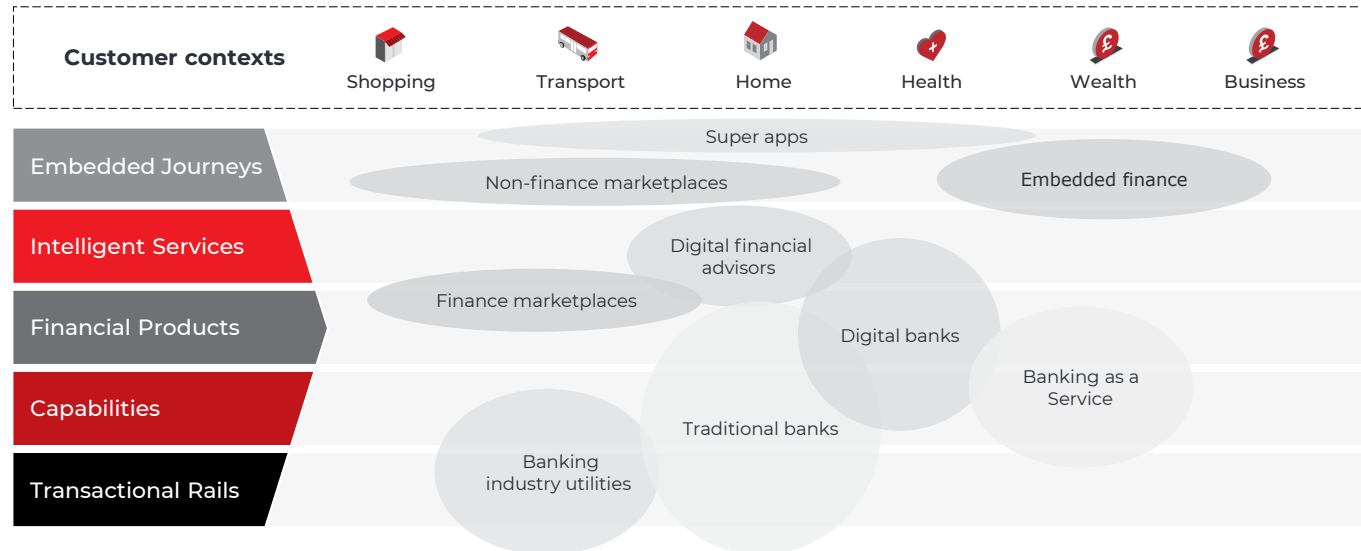
Estimated CAGR of global embedded lending market between 2023-2031²

Sources : (1) Finacle – Qorus Research Estimates (2) Coherent market insights statistics

Business model innovation opportunities are emerging across the value stream

Unbundling and rebundling of banking is presenting new opportunities for banks to undertake business model innovation journeys. The truth is that banking innovation isn't a fixed destination but a constantly shifting target that organizations must pursue as they navigate digital

transformation across the value stream. Digital thus, is no longer a competitive advantage, but has metamorphosed into a tool – not only for survival, but for stepping up innovations.

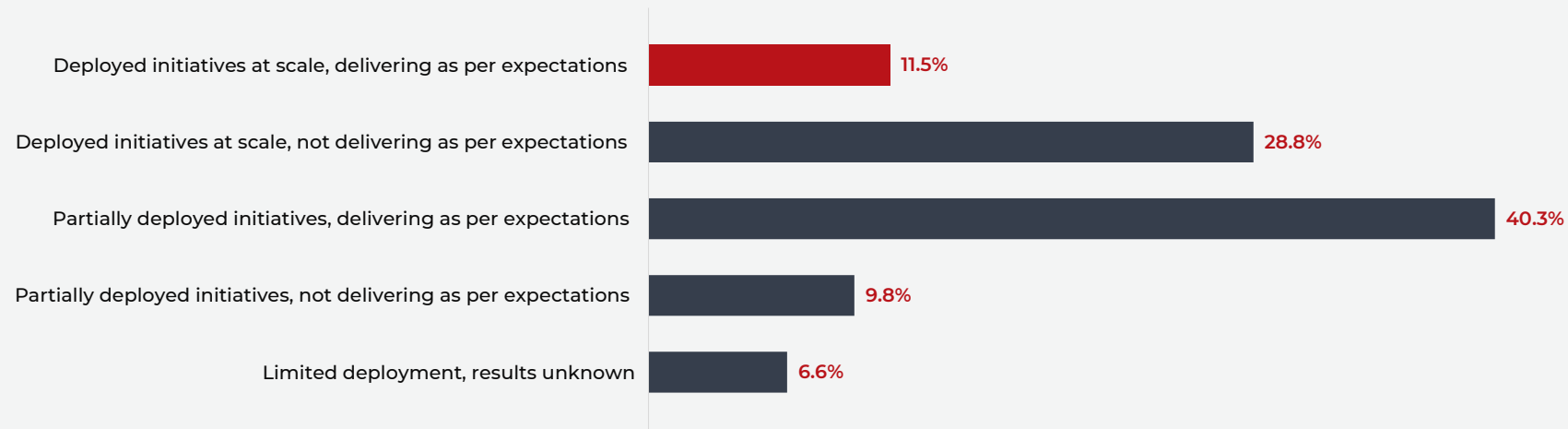


Emerging archetypes to drive business model innovations in banking

Source: 'Developing innovative digital banking business models' by 11:FS, in association with Infosys Finacle

Most banks are not moving fast enough

While digital goalpost continues to move rapidly, most banks are not moving fast enough. While many of them today are at varied stages of their digital transformation journeys, very few of them have deployed transformation initiatives at scale. In our recent industry research, over 40%* of banking respondents reported partial deployment of digital transformation programs. A vast majority of respondents also highlighted legacy technology and system integration challenges as the key drivers which are stifling the transformation journeys. The premise is clear. If banks and FIs are to succeed from here on, they must disaggregate their monolithic systems and move towards a modular, cloud-powered open architecture that can help power their transformation journey with speed, scale, and resilience. Composable architectural design built on microservices-led foundations will play a critical role in this transition.

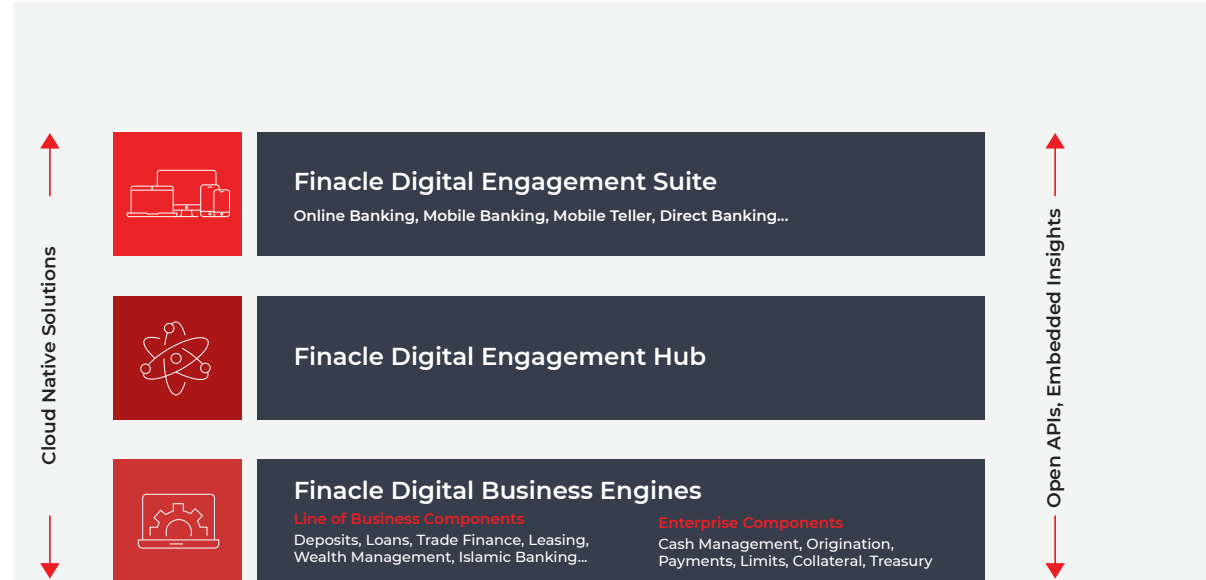


Status of digital transformation in the banking industry

Note – 3% of respondents didn't select any of these options

Finacle offers a feature-rich digital banking platform, built on modern architecture

Finacle is differentiated by its functionally rich solution suite and composable architectural design. All Finacle products are composed by reusing and assembling an array of independent and fit-for-purpose technical and domain components. Built leveraging 20 years of experience of serving banks globally, these components are independently scalable, replaceable, and upgradable, and offer uniform interfaces designed to support service composition. Combined with customer-centric engagement components, Finacle delivers industry-leading digital banking solutions for various business segments, such as Retail, Wealth, Islamic, Business, and Corporate Banking. This approach enables the highest effectiveness of both R&D investments and delivery of feature-rich solutions. Each of these components brings the innovations and best practices accrued from serving banks in more than 100 countries. All the components' capabilities are exposed as APIs and webhooks to enable rapid integration with Finacle and non-Finacle components. No matter what a bank's size, type, or persona, Finacle's composable architecture can give it a foundation of robust functional capabilities to scale digital transformation with confidence.



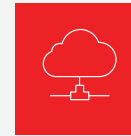
Full-stack composable digital banking suite from Finacle

Architecture's contemporary virtues

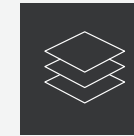
The cloud-native, componentized, and open APIs-driven Finacle platform is designed to help banks transform into agile, scalable, and open enterprises, ready to benefit from new-age possibilities.

Finacle offers an optimum mix of componentization granularity. The microservices-based solution components run in a containerized environment orchestrated by Kubernetes. They can be deployed on a private, public, or hybrid cloud or accessed via a software-as-a-service model. All of the solution capabilities are exposed through APIs to enable banks to easily connect and co-innovate with customers, partners, and the extended developer ecosystem.

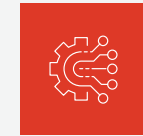
The Finacle suite is proven for high availability and performance. It supports horizontal, vertical, and functional scalability: Finacle's largest core banking implementation powers more than 500 million accounts. Its modern architecture is one of the reasons why Finacle is consistently recognized as a leader in the core banking, digital engagement, corporate banking, and payments spaces by major industry analysts.



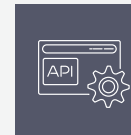
Cloud-native,
cloud-neutral



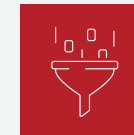
Layered design,
polyglot stack



Automation-first
process design



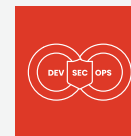
Event-driven,
API-first



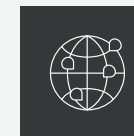
Strong data foundations
for AI infusions



Scalability, performance
and resilience



DevSecOps
and CI/CD



Configurability, localization
and extensibility



Headless, decoupled
experience stack

Key architectural highlights



Infosys Finacle's compelling vision and value proposition build on a strong track record in emerging technologies. Its comprehensive roadmap focuses on AI, blockchain, and green computing, and has achievable timelines.... Infosys Finacle offers superior API capabilities and supports diverse banking services for retail, small and medium-size business (SMB), and corporate clients... It excels in real-time and event-driven architecture, leveraging robust technologies for data consistency, resilience, and security... Finacle's Enterprise-Class Customer Data Hub delivers a unified view of the customer and feeds a comprehensive AI platform for training and deploying models with more than 40 use cases, including generative AI (genAI) bots... Customers consistently rate Finacle highly, praising its responsiveness, implementation support, and ability to understand and act on their business needs... they overwhelmingly emphasized the vendor's strengths in functionality, performance, and support... Finacle is best suited for large retail, SMB, and corporate banks who seek a modern, comprehensive, innovative platform with superior support.



Huard Smith, Principal Analyst - Forrester

Source: The Forrester Wave™: Digital Banking Processing Platforms, Q4 2024

Disclaimer: Forrester does not endorse any company, product, brand, or service included in its research publications and does not advise any person to select the products or services of any company or brand based on the ratings included in such publications. Information is based on the best available resources. Opinions reflect judgment at the time and are subject to change. For more information, read about Forrester's objectivity [here](#).

THE FORRESTER WAVE™ Digital Banking Processing Platforms Q4 2024



*A halo indicates above-average customer feedback. A double halo indicates that the vendor is a Customer Favorite.

© Forrester Research, Inc. Unauthorized reproduction, citation, or distribution prohibited.

Many journeys, one platform

In the journey to become truly digital, no two paths are alike. Finacle meets the needs of any type of bank, at any stage of their journey.

The componentized, microservices-driven architecture and highly parameterized application suite drives digital transformation for a wide range of financial institutions.

Banks can go to market faster with Finacle's flexible product factories and modular deployments that bring global innovations to life with simple configurations. Whether a bank is traditional or emerging, global or local, physical or digital, or a medley, Finacle's robust platform is designed to help it transform with agility and drive innovation-led growth.





What's under the hood

Eight perspectives to gauge the robustness of Finacle's architecture

Increasing sophistication of technology calls for a nuanced view of its fundamentals. Finacle's approach to a modern banking architecture spans eight key perspectives.

These views of the architecture not only present a more coherent, nuanced look into the foundations of Finacle offerings, they also ensure that the architecture is communicated to and understood by the diverse stakeholders more easily.

1

Solution architecture

5

Security architecture

2

Cloud architecture

6

Process architecture

3

APIs and eventing architecture

7

DevOps architecture

4

Data and AI architecture

8

UI/UX architecture

1

Finacle's Solution Architecture

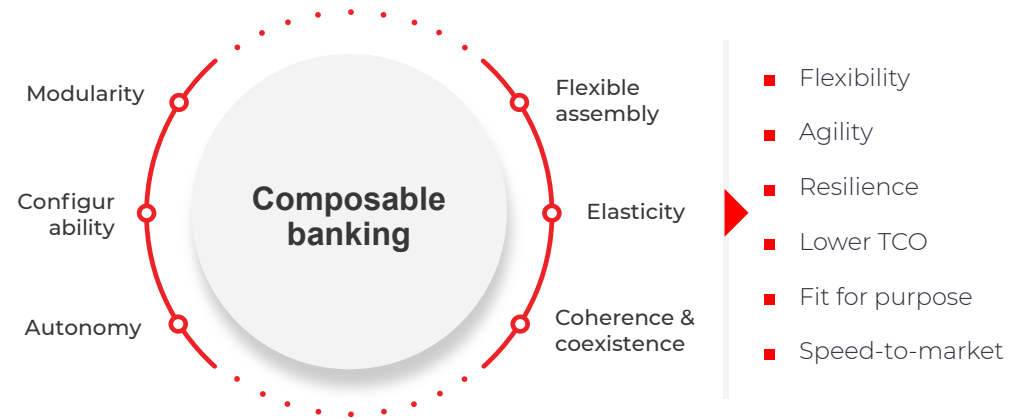
Composable and microservices driven





Composable solution design is the way forward for next-gen banking transformations

The modern-day banking approach entails delivering tailor-made products through rapid bundling of independent fit-for-purpose components and will require banks to drive focus on domain-driven design principles. A composable platform will give banks the necessary flexibility to aggregate products for their unique business needs, reduce the time-to-market for launch, enhance resilience and lower TCO.

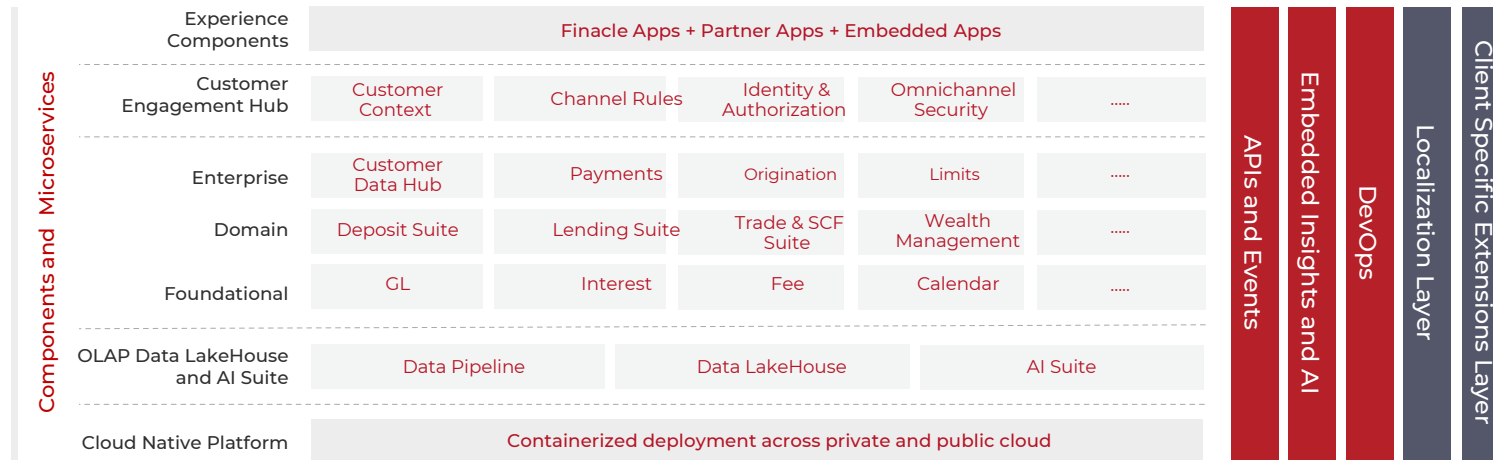


Achieve architectural composability with a decoupled, polyglot design

Finacle offers a multi-layered architecture with a clear decoupling and separation of concerns between layers. The application architecture is polyglot by design, with the ability to deploy fit-for-purpose technologies at each layer. Its full stack, organic design leverages a host of open-source components across layers, enabling banks to meet emerging needs with proven and vulnerability-tested components.

Its GUI tools-led extensibility framework supports region-specific localization and client-specific extension across all layers with no change in source code.

With Finacle, banks can customize everything from business services and business processes to workflows, reports and user interfaces. Further, the solution supports containerization for faster creation and deployment of business applications on-premise as well as on cloud.



Finacle's next-gen digital banking platform

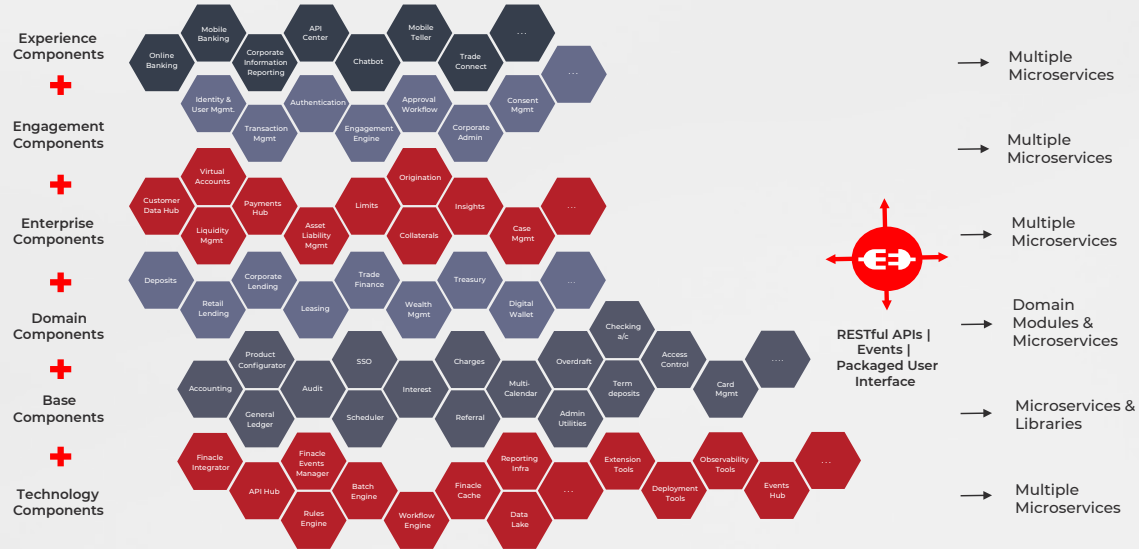


True microservices power Finacle's digital banking platform

Finacle's composable banking platform is built on the foundations of a 100% open architecture, embracing true microservices architectural thinking. Fueled by domain driven design constructs, the platform offers right grained microservices tailored to the business domains they support.

Rooted in pattern language, the platform's microservices design ensures the delivery of efficient, precisely-tailored components perfectly suited to the unique requirements of each business domain.

- A host of data strategy patterns ensure consistency and seamless querying across services, pivotal for system integrity, scalability and performance
- A variety of integration, messaging and communication patterns seamlessly connect services, manage communications, and drive integrations to leverage the full potential of microservices
- The deployment automation and scalability patterns provide optimal microservices deployment, addressing resource utilization, isolation, cross-cutting concerns, population-scale performance, and operational complexities
- The observability and performance management patterns deliver on optimal behavior, performance and resilience of the microservices



Independent domain components and microservices powering composable banking

Composability in Action: Cash Management for a large US bank



2

Finacle's Cloud Architecture

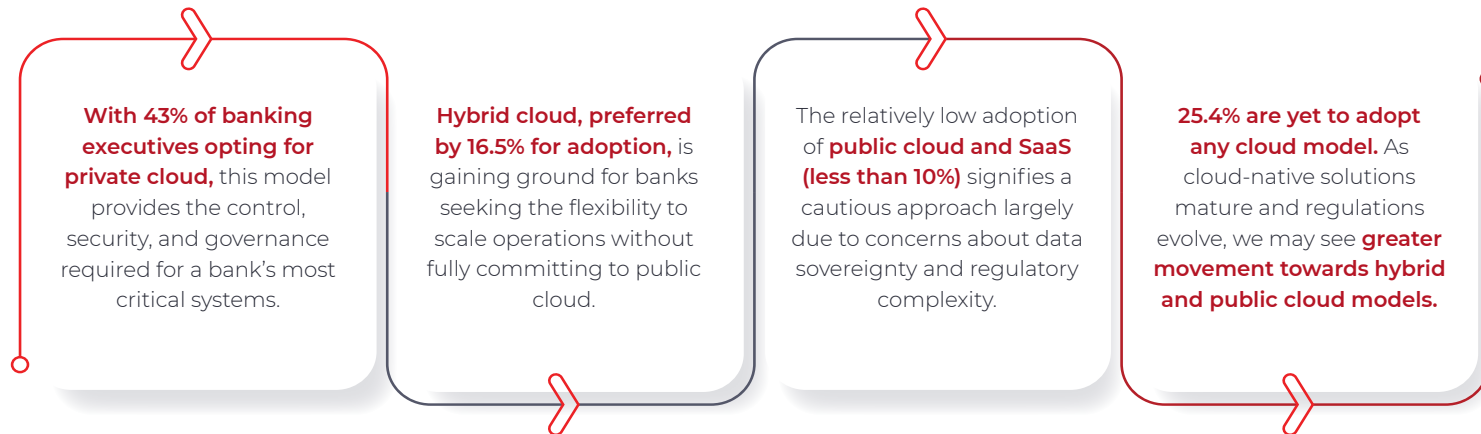
Cloud-native, cloud-neutral



Digital transactions are burgeoning by the day

Digitization continues to rewrite the rules of modern-day banking. Transactions are increasingly moving to the digital realm and banks find themselves looking at a mammoth task of processing thousands of transactions per second, particularly during seasonal spikes. Besides, the growing non-traditional competition is resetting benchmarks in customer experience with highly personalized services and great user experience design. To respond, banks need a flexible and scalable IT infrastructure with agile foundations, enabling them to meet emerging requirements and take new, personalized products to market with speed. While most

banks today know that cloud is the answer, they are yet to embrace it fully; more than a quarter are yet to evolve definitive cloud strategies. With cloud, banks can personalize their services at scale as well as rapidly design, test and deliver engaging experiences to customers. Furthermore, financial institutions of all sizes, even those with fewer resources, are becoming more competitive thanks to cloud. Given the benefits of agility, flexibility and scalability at low infrastructure and computing costs, the question today is not “why” but “when” and “how” a bank should adopt cloud.



Cloud adoption status in the banking industry

Scale cloud success with Finacle

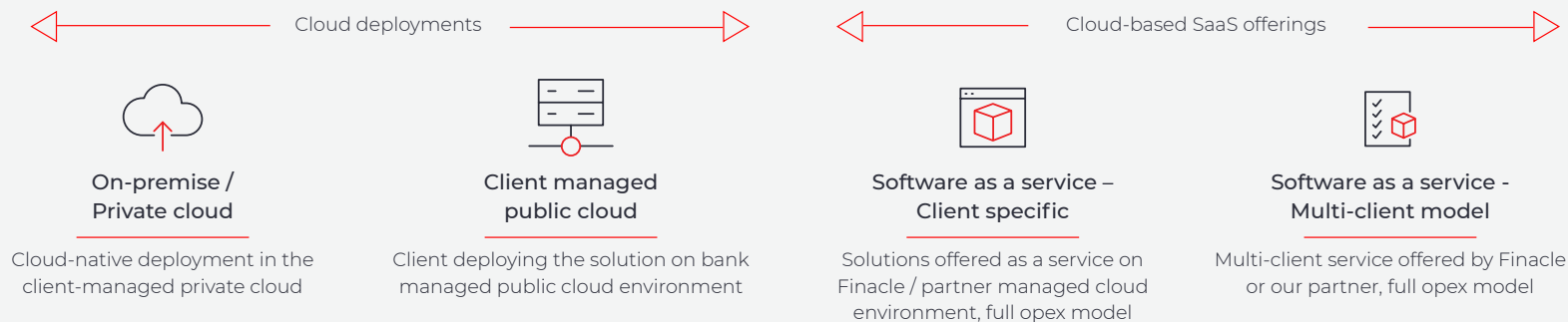
Finacle offers a cloud-native, cloud-agnostic platform, which can be deployed flexibly – on a private, public or hybrid cloud – to suit a bank's requirements. Finacle applications are built on a cloud-native framework based on Cloud Native Computing Foundation (CNCF) standards, and follow the Twelve-factor App Methodology.

The applications run in a containerized environment orchestrated by Kubernetes, which is supported in all cloud environments and lends a cloud-agnostic deployment approach to enable functional and horizontal scalability.

Finacle has partnerships with all major global and regional cloud providers, including AWS, Microsoft Azure, Google Cloud, IBM, RedHat and Oracle, to accelerate the transition to cloud.

The key elements of this approach include:

- Microservices-based componentized architecture
- Stateless processes for agility and scalability
- Containers orchestration with Istio
- Continuous integration/continuous delivery automation
- Service mesh for data sharing, observability and analysis
- Container registry and runtimes for access controls
- Streaming and messaging
- Declarative, and RESTful APIs
- Observability and analysis



Cloud native and cloud neutral platform that gives you the power to choose



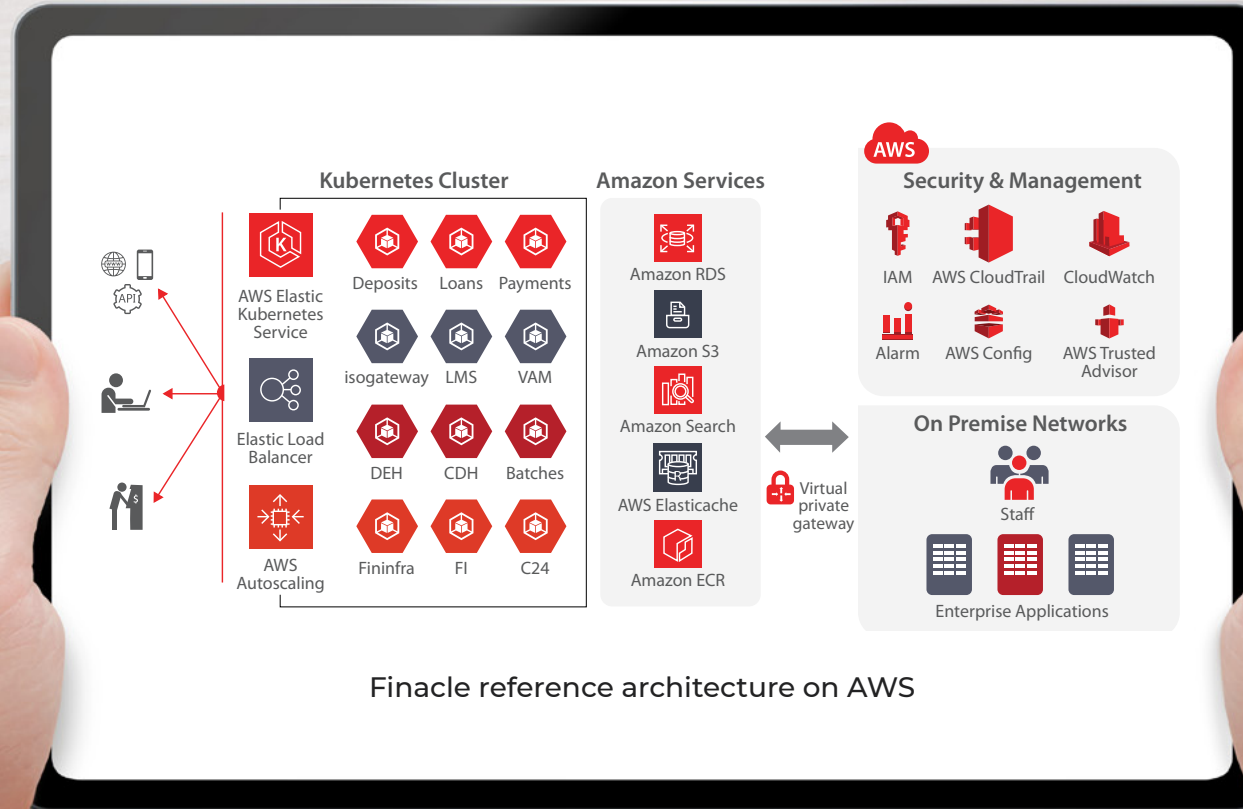
With cloud native architecture, future proof IT platform strategy

Finacle offers a comprehensive set of containerized and Kubernetes-orchestrated banking applications that are built to cover all servicing channels, enterprise capabilities and business functions.

Finacle's containerized deployment on Kubernetes includes the following considerations:

- A web application firewall that provides for DNS configuration and web security
- An elastic load balancer that enables auto-scaling of application containers with automated failovers
- A network load balancer on an elastic Kubernetes services cluster with an optional Istio service mesh that routes traffic to the worker nodes deployed across availability zones
- An elastic file system that stores user-level as well as batch logs and reports
- A provision for multi-AZ database instances including RDS services with varied open-source stacks
- Additional web servers to provide enhanced security to ensure no endpoint from the defined service cluster is exposed directly outside the virtual private cloud
- End-to-end DevOps CI/CD pipeline to simplify deployment

Additionally, the Finacle platform offers preventive monitoring through the Finacle Assure Service, extends support for end-to-end managed services for SaaS services and provisions for automated backups in cloud.



Finacle reference architecture on AWS

Cloud transformation with Finacle

Zand Bank launched its digital assets ecosystem in 12 weeks using Finacle's cloud-native core on MS Azure



Resimac adopts a full SaaS model, enabling multi-brand, multi-entity propositions with white-labelled products and services



With Finacle on Cloud4C private cloud, ABN AMRO offers secure, anytime, anywhere access for managing global commercial cash flows



Union Bank of the Philippines migrates to Finacle Core on AWS public cloud, projects 44% TCO savings over 5 years



Royal Bank of Canada's cloud-powered cash management offers corporate clients a unified data store for tailored views and control





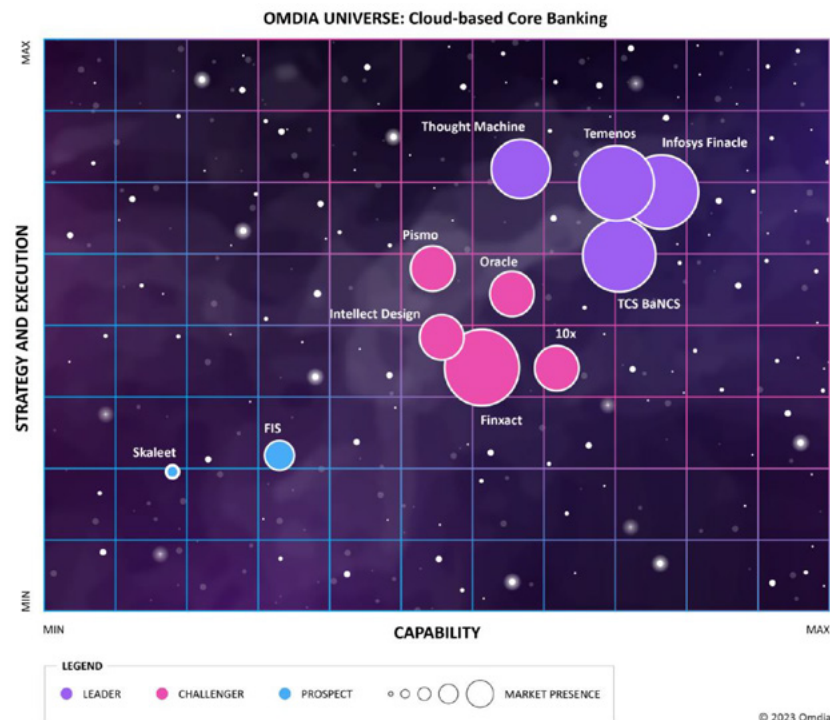
Infosys Finacle has the widest solution breadth with the broadest platform capability and achieved one of the highest scores for core platform capability by providing a wide range of capabilities out-of-the-box that would suit complex deployments.

Finacle has a cloud-native, cloud-agnostic, componentized, layered, and open APIs-led microservices architecture. It also offers a real-time processing engine and Finacle API Connect (a full-stack API offering), supporting newer business models such as BaaS, marketplace banking, and embedded finance.

Finacle is a clear leader in product support and has been an early enabler of open banking, largely due to the regulatory requirements of its largest customers, and its clients have already leveraged the solution's capabilities to develop new business models for API-led distribution of banking products and payments.

As an established vendor, it is well-placed to maintain its leadership position in the future, supported by its M&A activity and partnerships strategy and its impressive roadmap dedicated to continuous improvement and innovation.

Referring to Finacle Core Banking Solution, Omdia analysts Philip Benton and Ouliana Smith mentions in the report



Source: OMDIA Universe: Cloud-based Core Banking, 2023

3 Finacle's API and Eventing Architecture

Powering ecosystem innovations with open architecture



Composable banking propositions demand differentiated APIs and eventing strategies

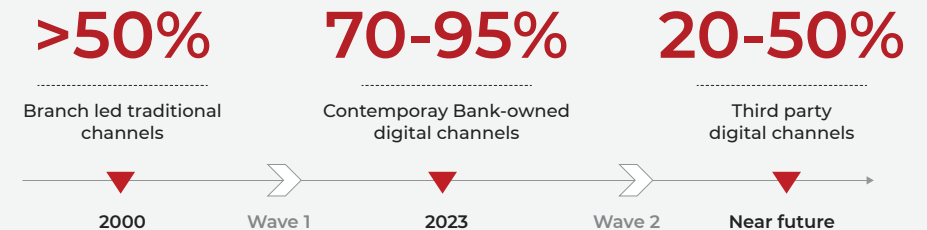
There is a lot going on in banking and APIs are right at the center of all this action. They play a foundational role in banks' pursuit of composability, by virtue of their ability to weave together and expose a host of independent fit-for-purpose components in a plug-and-play approach. They also enable banks to explore new business models and monetization approaches by curating ecosystems to aggregate and bundle financial as well as non-financial products.

Open banking-related regulatory and industry interventions are nudging banks towards the API economy. While most banks now have the API infrastructure in place to comply, forward-thinking banks are looking beyond mere compliance and are focused on commercializing APIs through new products, business models, and partnerships.

They are also looking to augment capabilities such as consent management, event management, TPP management, sandbox, developer portal, event hub and more, thus making the API infrastructure more holistic and all-inclusive.

As a result of banks stepping up their API game, models such as Banking-as-a-Service and Embedded Finance are gaining prominence. These developments will help banks to unlock new revenue streams, monetize data and insights, expand distribution of existing products, and co-create new propositions with FinTechs.

Furthermore, APIs and event-driven interactions offer banks the arsenal to derive the value of near-real-time integrations across the ecosystem, facilitating data access and driving in-context opportunities.



Customer journeys are evolving rapidly - APIs are driving this evolution

Source: Infosys Finacle Research

Realize the power of APIs and Events with Finacle

The Finacle Digital Banking Platform enables banks to transform into agile, scalable and open enterprises, ready to benefit from new-age possibilities. All of the solution capabilities are exposed through APIs to enable banks to easily connect and co-innovate with customers, partners and the extended developer ecosystem. The platform, powered by Finacle API Connect – a suite of API capabilities – helps banks to accelerate ecosystem innovation and launch comprehensive API banking offerings with ease and agility.

The key components include the following:



Business API Suite

A vast catalog of BIAN-inspired pre-packaged business APIs powering various banking functions, bundled into domain packages



API Hub

A unified platform to design, develop, and orchestrate API interactions with multiple enterprise applications; offers a GUI-based API Flow Builder and an API Workflow Manager



Event Hub

A dedicated hub to define, detect and publish business events from across any of the digital banking applications. The Kafka-based event streaming platform is capable of handling millions of events a day



API Management

A pre-configured set of tools to manage the end-to-end API lifecycle; offers an API gateway to facilitate exchange of API calls at scale



Developer Portal

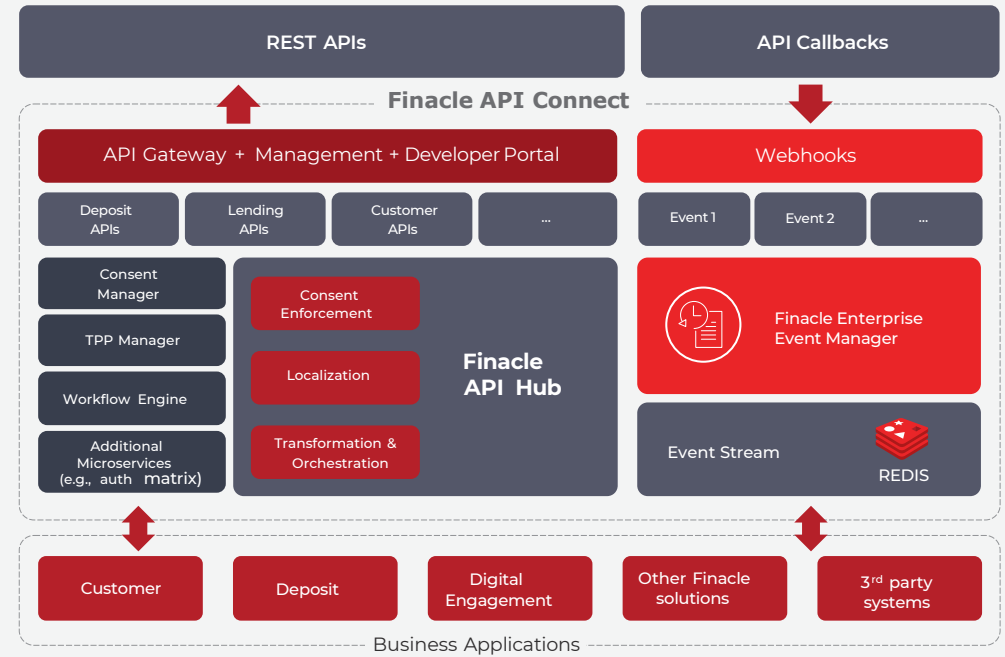
A portal to register and manage clients, prospects, and developers with a sandbox environment and self-service account management tools



Sandbox

A sandbox environment for approved entities to safely test and validate the API integrations

With its comprehensive API-led capabilities, Finacle is helping banks and FIs of all types, segments and sizes to explore futuristic business models such as Banking-as-a-Service, Embedded Finance, Marketplace Banking and Open Finance.



End-to-end API capabilities

Finacle offers an extensive eventing infrastructure to step up real-time foundations

Finacle's Enterprise Events Manager is a sophisticated platform designed to efficiently manage the collection, processing, and storage of events and telemetry data from a wide array of applications and platforms. By acting as a central events hub, it effectively decouples the systems that generate events from those that consume and act upon them. This decoupling plays a key role in maintaining system efficiency and flexibility, allowing different components of a digital banking infrastructure to operate independently while seamlessly sharing data. With its robust Kafka-based event streaming capabilities, Finacle Enterprise Events Manager can handle millions of events per day, making it a vital component for managing high-volume, real-time data flows.



Customer Success Stories

Enabling banks reap API and eventing advantage with robust foundations

Paytm

Paytm, a superapp, drives a true marketplace and more than 25% of the open banking transactions in India

One of the leading bank in MENAT

Effortlessly handles over 10 million events daily through a scalable, agile, and non-intrusive eventing architecture; is set to handle over 40x the current transaction volumes



Union Bank of Philippines is creating new benchmark for banking-as-a-services success with its BNPL initiative with Samsung Finance+

External logos are registered trademarks of the respective organizations



The collaboration between Zand Bank and Finacle thrives on shared vision and agility. This synergy has enabled remarkable milestones, such as achieving full migrations within just 100 days - a testament to the seamless collaboration and technological alignment. Finacle's modular architecture and deep understanding of Zand's needs have been pivotal to our growth. Their API-first approach aligns perfectly with Zand's 100% cloud-based operations. The partnership has enhanced our scalability, flexibility and speed to market, giving us a competitive edge.



Michael Chan, Chief Executive Officer, Zand Bank

4

Finacle's Data and AI Architecture

Accelerated data readiness for AI opportunities



Digitization is driving an explosion in data, creating immense AI opportunities

AI is no longer a novelty in the banking sector. Banks have been exploring AI technologies for a while now, ranging from machine learning and natural language processing to computer vision, deep learning, and now, generative AI. However, the pace of AI adoption has accelerated significantly in recent years, with over 90%¹ of banks implementing AI in some capacity. Generative AI, in particular, has disrupted the status quo, forcing banks to re-evaluate their AI strategies. The IMF predicts² a twofold increase in AI spending by financial institutions between 2023 and 2027, highlighting the growing importance of AI in the banking industry.

Incidental to the AI momentum is the need for a sound data strategy. For decades, banks have sat on a mountain of data, of all hues. Although they possess vast amounts of data, they are highly underutilized, hindering AI progress. Several banks cite a lack of proper data infrastructure as a major deterrent.

According to Infosys Finacle and Qorus Innovation in Retail Banking Research 2024³, only over a 10% say that their architecture maturity for data management, analytics, and AI is best in class. This needs to change. And fast. The ability to capture and crunch data into actionable insights is one of the most valuable resources for banks today. No matter what the targeted outcome – superior customer experience, better risk management, insights-driven interaction or personalized service delivery – real-time access to data, combined with advanced analytics, and sophisticated AI is critical to scale digital success.

With advances in distributed file systems that handle large data sets running on commodity hardware, growing acceptance of OLTP and OLAP architectural constructs, transition towards event-driven business applications to enable real-time data extraction, and increasing sophistication of machine learning algorithms, the time is ripe to unlock value from data and AI.

	Best in class	As good as others but not better	Not as good as others	No opinion
Data Management, Analytics, and AI.	11%	39%	40.70%	9.30%

Over 40% of bankers indicate that their architecture maturity for data management, analytics, and AI readiness are not as good as others

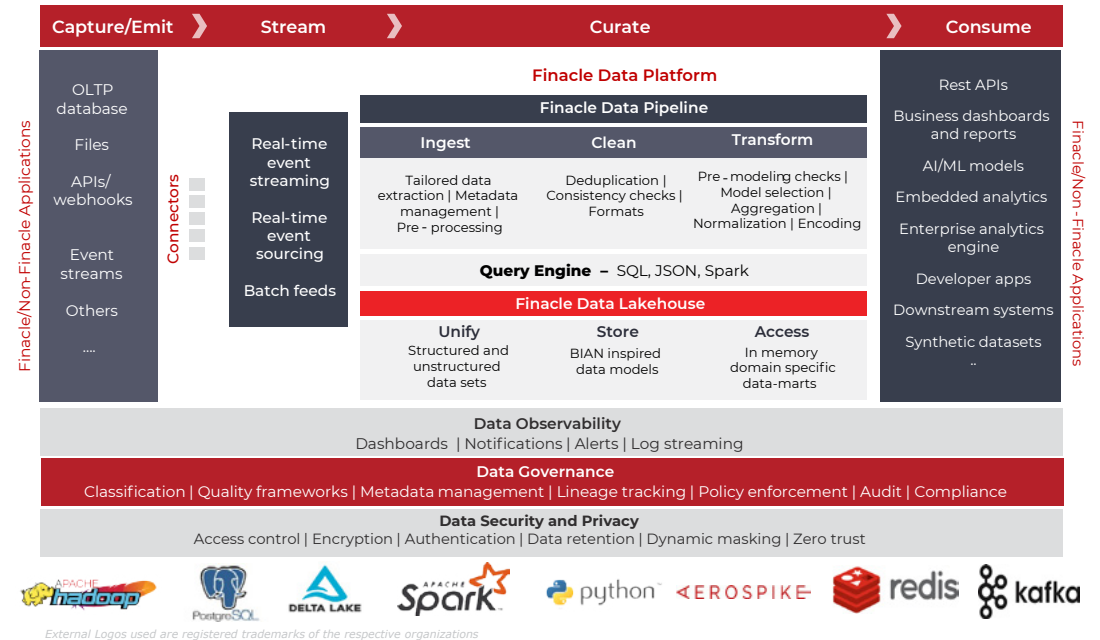
Bank’s application architecture maturity vis-à-vis modern architectural principles

Sources: (1) EY survey – AI adoption in Financial Services, 2023 (2) IMF report – AI’s reverberations across finance, 2023 (3) Infosys Finacle and Qorus Innovation in Retail Banking Research 2024

Unlock true data potential with Finacle Data Platform

Finacle Data Platform is a comprehensive solution designed to help banks unlock the full potential of data and accelerate AI readiness. The platform is built on a layered OLTP-OLAP architecture, embraces a polyglot design, and incorporates CQRS pattern constructs. The platform offers low-code configuration capabilities, facilitating easy integration from various data sources and enabling rapid data cleansing and transformation. Powered by a robust data pipeline, the platform captures, extracts, curates, and delivers high-quality data for various consumption scenarios, including analytics, reporting, and AI applications.

The integrated yet modular data lakehouse provides a unified data estate, enabling banks to access data from diverse sources and establish a single source of truth. Built in security features such as access control, encryption, authentication, synthetic data generation, dynamic masking and a zero-trust architecture helps banks safeguard their data. Real-time observability controls with dashboards, notifications, alerts and log streaming ensure transparency. Moreover, robust data governance through classification, lineage tracking, metadata management and policy enforcement guarantees data auditability and compliance.



A comprehensive data platform from Finacle

Operationalize AI at scale with Finacle AI Platform

Finacle AI Platform is a comprehensive solution designed to help banks accelerate AI journeys. The unified, no-code platform simplifies AI development lifecycle, empowering both technical and business users to rapidly build, train, deploy, monitor and optimize explainable AI solutions with ease.

The platform offers a rich library of pre-built ML models and supports varied techniques like classification, regression, clustering, and forecasting. Banks can leverage these models to build custom ensembles or even import their own pre-trained models. Features such as model comparators, what-if simulations and pattern analysis are available to refine and elevate modeling sophistication. The platform promotes responsible AI practices - comprehensive capabilities for detecting biases and drifts, along with a patent-pending synthetic data generation feature to safeguard data privacy during model build and training are all available natively.

Finacle AI Platform is built on the principles of transparency, interpretability, and explainability, fostering trust and accountability in AI models. The platform is based on open-source technologies and can be deployed on both cloud and on-premises infrastructure.

With its extensive library of pre-built AI use cases, Finacle AI Platform enables banks to seamlessly integrate AI into various business processes and customer journeys. This empowers banks to accelerate value creation from their AI investments and drive innovation.



**Ensemble of
pre-built-
models**



**Combinatorial
approach**



**Model
monitoring and
governance**



**Model
explainability**



**Single click
integrations**



**Deeper
insights**



**Standardization
options**

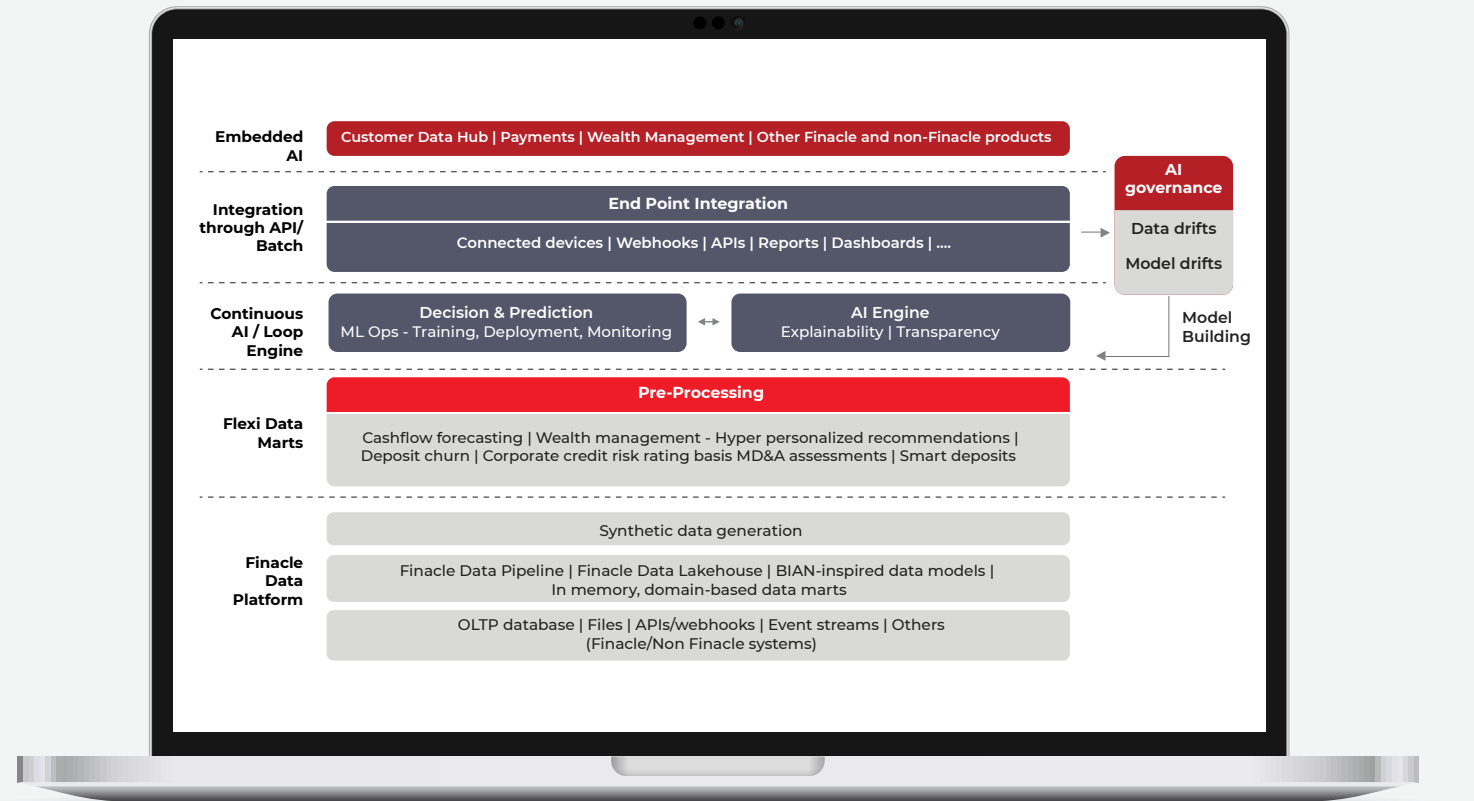


**Privacy
design**

Finacle AI Platform's Key Features

Finacle AI Platform

Functional Architecture



Tap into the generative AI momentum

Finacle has been making rapid strides with Generative AI. The technology plays a foundational role in our AI platform, empowering users with an interactive interface to select and build the right models for their AI use cases. Our Generative AI offerings encompass a diverse range of AI assistants designed for both enterprise and customer-centric applications.

Finacle's Generative AI assistants leverage advanced techniques such as prompt engineering, model fine-tuning, and Retrieval Augmented Generation (RAG). This enables them to effectively process and generate context-aware, human like responses. These AI assistants are built on the foundations of a variety of transformer-centric large language models, including all the major open-source and enterprise editions. However, the AI assistant solutions are agnostic to the choice of LLMs, and hence offer flexible options.

Finacle's enterprise-centric Generative AI assistants are designed to revolutionize operations and step up efficiencies. An array of AI assistants tailored for varied requirements of banks are available.

Here are two prominent examples –

Finacle Knowledge AI Assistant simplifies navigation and search across multiple document repositories. By understanding diverse user queries and leveraging RAG, the AI assistant provides contextual summaries and relevant information.

Finacle Support AI Assistant streamlines ticket resolution for support teams. Trained on a vast repository of tickets and resolutions, the bot can combine solutions from multiple incidents to address new issues effectively. It can also access a universal set of incident-response repositories for enhanced resolution mechanisms.

Finacle's market-centric Generative AI offerings include collaborative partnerships with banks to co-create several use cases addressing key focus areas such as customer engagements, loans processing, reporting and compliance, data analysis, and more.

5

Finacle's Security Architecture

Multi-layered capabilities across the stack



The role of security in banking technology has never been more profound

It's a connected economy that banks and FIs operate in. Be it banking openness, and its promise of information democratization, or new-age cloud-propelled innovations, all are heralding new dynamics. At the same time, banks also recognize that security is a vital cog in their operations, and for business continuity.

Open banking and API-led collaboration will continue to rewrite banking business models. Data security and regulatory nuances will dramatically evolve. Adding to the mix, would be the growing adoption of public cloud, virtualization of data centers, and prominence of open-source technologies and open networks, which will have enormous implications for banking security.

The expansion of digital and third-party banking channels, and Industry 5.0's IoT dynamics will only intensify the security needs.

AI technologies will throw up new preventive strategies with adaptive threat intelligence, zero trust-based interactions, dynamic multi-factor authentication and behavioral profiling across business applications. In times like these, it becomes binding for banks to take a holistic approach and imbibe security-by-design across APIs, applications, platforms, networks, and data architecture.

	Best in class	As good as others but not better	Not as good as others	No opinion
Security	23.30%	59.20%	14.20%	3.30%

60% bankers indicate that their security posture is as good as others, but not better

Bank's application architecture maturity vis-à-vis modern architectural principles

Source: Infosys Finacle Qorus Innovation in Retail Banking Research 2024



Strengthen enterprise security with Finacle's comprehensive multi-layered security capabilities

Finacle Digital Banking Platform is designed to help banks address and mitigate modern security challenges. Guided by a robust security governance framework, the platform offers multi-layered security architecture. It strictly adheres to secure coding and testing principles throughout the software development lifecycle and is fully compliant with global security standards including ISO27001-27002, PCIDSS/ PAPB, FFIEC, COBIT and more.

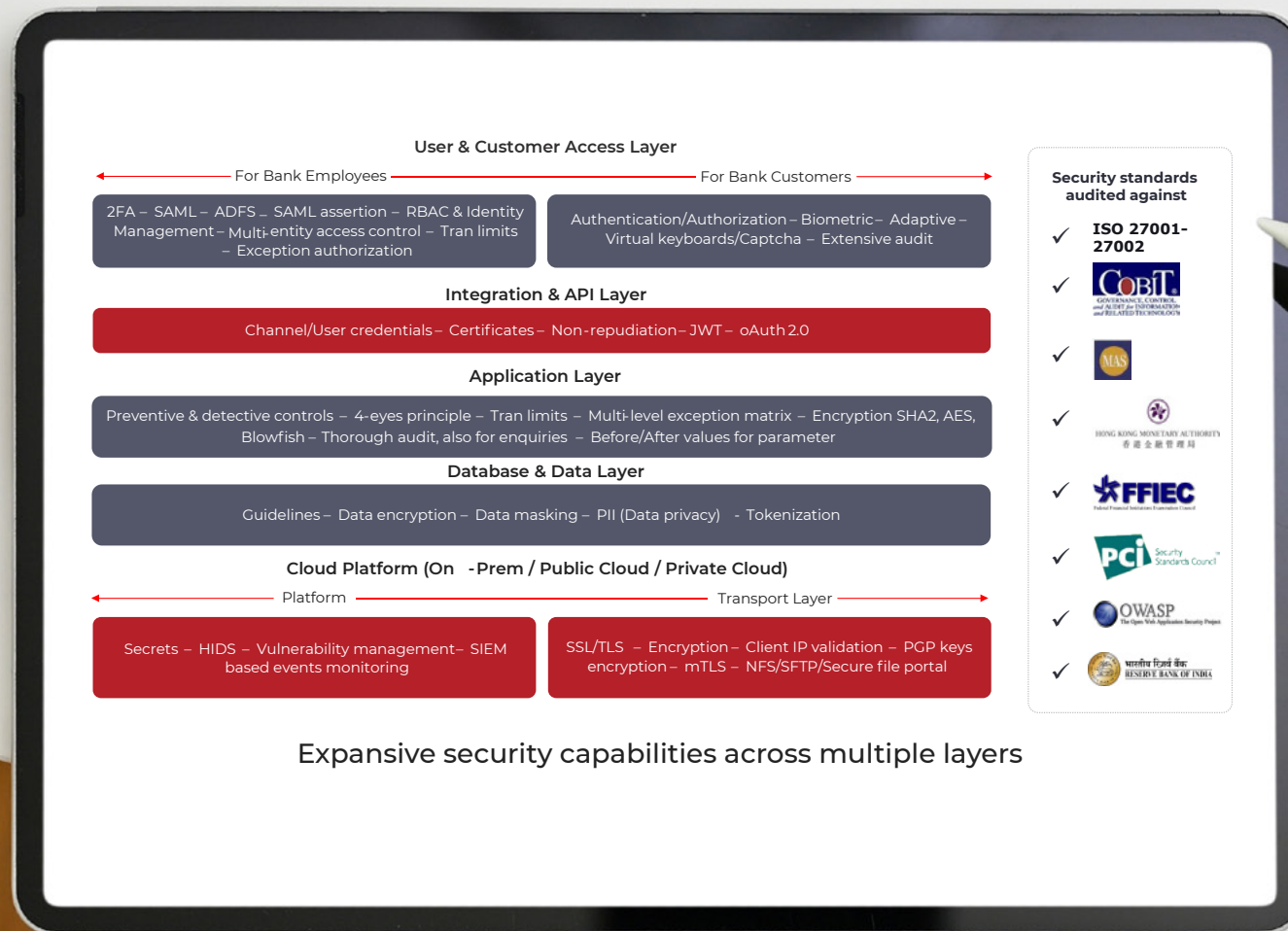
Banks can leverage a range of access control mechanisms around authentication, and segregation of duties and entitlements for internal users as well as customers. For APIs and interfaces, the platform supports security mechanisms including channel authentication, certificates, JWT tokens and the OAuth 2.0 standard. Further, the platform enables banks to implement critical preventive and detective controls, such as the four-eyes principle, currency-wise transaction limits, a 3x3 exception authorization matrix and a robust audit framework.

What's more, Finacle supports SHA2, AES and Blowfish ciphers for encryption. The platform's database and data security capabilities include input validation, session management, masking, checksum etc.

Finacle uses the Network Zoning mechanism for on-prem deployments. For cloud deployments, the platform extends capabilities for identity and access management, host intrusion detection and vulnerability management, and SIEM-based event monitoring.

Finacle supports HTTPS for all calls based on a two-way SSL/mTLS encryption protocol. For file security, the platform supports secure FTP over NFS / EFS, PGP keys-based encryption as well as secure file portal mechanisms.

Finacle also provides nuanced capabilities, such as build your own encryption, secrets, tokenization, data privacy, IP validation and more, empowering banks truly adopt security-by-design in their end-to-end operations. The platform is certified against multiple regulatory requirements, ensuring that it meets stringent compliances. The platform is supported by an independent organizational-level security team, dedicated to maintaining security best practices and addressing evolving threats. Clients can also benefit from a wide range of cybersecurity services with pre-integrated third-party and homegrown security products offered by the Infosys CyberNext platform.



External Logos used are registered trademarks of the respective organizations

Customer Success Stories

Helping banks establish robust security foundations



ICICI Bank established robust security infrastructure leveraging Finacle's multi-layered security framework spanning user access, application, integration, and data security

Holistic on-prem security



Embedded security capabilities of Finacle SaaS offering helped **Australian Military Bank** achieve full compliance with APRA's stringent CPS234 information security mandates

Embedded SaaS security

A UK based Financial Institution

A prominent financial institution in U.K. enhanced security monitoring and gained robust incident detection and response capabilities with the Infosys CyberNext platform

Value-added services

External logos are registered trademarks of the respective organizations



Partnering with Infosys Finacle has allowed the Bank to develop and integrate the Finacle API Connect with our Open Banking 'Holder as a Service' (HaaS) platform provider, biza.io. The integration was seamless and delivered within 3 months of contract signing and allowed the Bank to be compliant before the regulatory compliance due date. By providing consent to use Open Banking our members can now have their data shared securely with 3rd party services.



Enis Huseyin, Chief Information Officer, Australian Military Bank



Finacle's Process Architecture

Automation-first process design



Better banking operations demand smart business processes

Digitization has rewritten the cost efficiency norms in banking. On an average, the cost-to-income ratio of the top 1000 banks globally stands at 50%, which drops to about 40% in the digitally advanced banks among them. However, the cost-to-income ratio of new-age digital-only banks is about half that of established banks. The pressure on incumbent banks to match the new efficiency benchmarks is intense.

For banks, the key to driving down cost-to-income ratio lies in optimizing their business processes, reducing cost overheads and building customer-centric design into banking operations. However, the complex legacy technology laden with system siloes and manual intensive processes continues to stifle their progress.

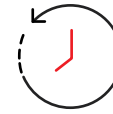
Also, optimized and well-refined processes have a transformative effect on banking, enabling financial institutions to deliver services that are more personalized, efficient, and seamless. These processes - powered by advanced technologies and data-driven insights - elevate the overall customer journey. It's not just about improving isolated touchpoints; it's the end-to-end redesign of banking workflows that fosters a more responsive, intuitive, and customer-centric experience at every stage.

To succeed, banks today need a technology platform which facilitates digital-first banking operations with comprehensive digitization, automation and industrialization of business processes. Such a platform will leverage modern technological enablers, such as BPM, APIs, Eventing, RPA, DLT and other automation tools, to deliver real-time straight through processing across user journeys.



30%

Digital-first operations driving new cost-to-income ratio benchmarks¹



< 90 Seconds

Customer-centric banking processes redefining customer experience²

Smart business processes - the key to better banking outcomes

Source: (1) Banker 1000 analysis (2) A leading digital-only bank

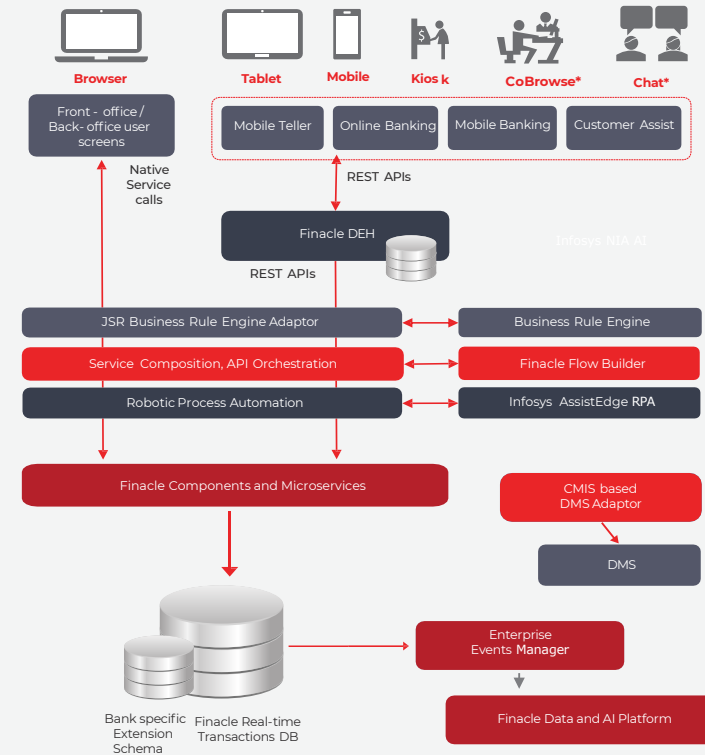
Automation-first process design

Finacle's digital banking platform enables real-time straight through processing, driven by rules, APIs, and events, and supported by in-house RPA and AI platforms. It helps banks to seamlessly automate workflows across applications, saving precious effort, time and money. The platform's integrated flow builder drives automation with service composition and API/events orchestration.

Finacle's in-house RPA (AssistEdge) and AI capabilities (Finacle AI platform) enables assisted and rule-based process automations, with AI augmentation. Further, Finacle's blockchain-powered solutions take efficiency to new levels by automating inter-organization processes for trade finance, payments and digital identity ecosystems.

The API-first, event driven architecture enables banks to experience better agility, efficiency, and adaptability in their operations, leading to reduced cost and significant gains in their cost-to-income ratio.

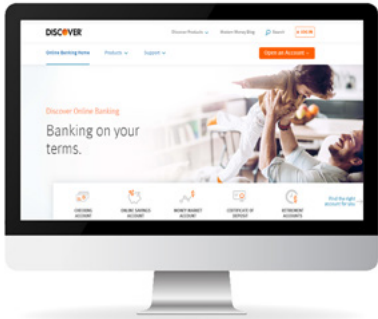
An assessment of the top 1000 global banks confirms that institutions powered by Finacle have a 3.9 percentage point lower cost-to-income ratio than their peers.



Advanced architecture to drive process excellence

Helping banks streamline business processes with robust automation

3.9 percentage point lower cost-to-income ratio than others; top performing client at 16%¹



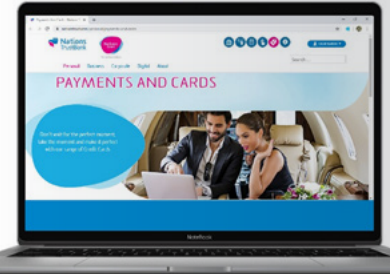
RPA at Nations Trust Bank delivered as much as 90% reduction in operational costs in select processes



19% average improvement in straight through processing rates, with over 18% gaining more than 40% improvement²



With Finacle, Discover Financial Services improved quality of customer service with most common customer requests requiring 40% fewer clicks



Leveraging Finacle Trade Connect, banks could reduce Letter of Credit processing cycle time by 75%



Sources: (1) Bankers 1000 database analysis 2020 (2) Independent client value assessment, 2020



Infosys Finacle and ANZ Bank have been key strategic partners for over 10 years. We are currently working on a significant upgrade to our Internet Banking platform and it is exciting to continue collaborating by creating more shared services, leveraging containerization, increasing automation and building out our CI/CD pipeline. The recognition of our work with Mountebank, and co-contribution of code back into the Open Source community by ANZ Bank and Infosys is also a great step forward in energizing our engineering culture.

Leigh Gibson, Erstwhile Tech Area Lead - Customer Self Service (CSS) Tribe, ANZ Bank



7 Finacle's DevOps Architecture

Accelerated deployments and upgrades,
with CI/CD automation





Accelerate time-to-market, close the digital innovation gap

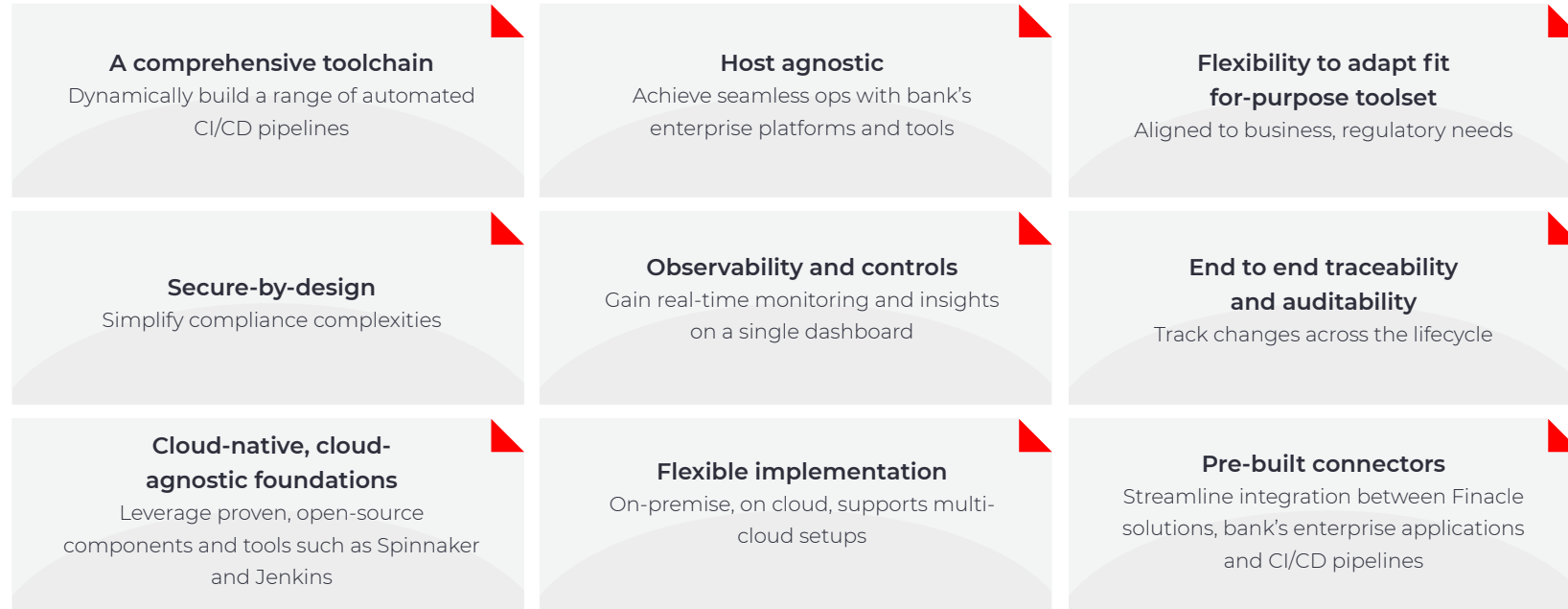
In the digital era, fast and frequent value delivery coupled with nuanced innovations is imperative for banking businesses to stay ahead. Banks and financial institutions need to be exceptional to meet customers' ever-changing demands and expectations without compromising on quality and speed. Adopting a DevOps strategy offers a chance to streamline critical processes such as software development, testing, deployment, and monitoring, while driving seamless collaboration and achieving faster time-to-market. And not only that, when banks have their modern architecture powered by a good DevOps practice, they can expect reduction in IT costs¹- up to 30% as indicated by leading industry reports.

Source: (1) DevOps Consulting | DevOps at scale | BCG

With Finacle DevOps Platform, deploy with agility, upgrade seamlessly

Finacle DevOps Platform is an enterprise-class, security-first and scalable platform to help banks streamline product release-to-production environment lifecycle and shrink deployment time. This enables banks to accelerate innovation and speed up time to market.

The platform's key value propositions include:





Finacle's User Experience Architecture

Composable experience stack



Reset the UI/UX benchmarks with composable digital experiences

As the customer experience benchmarks are being reset by the likes of Netflix and Amazon, the mandate is clear for banks to imbibe hyper-personalization in their service delivery. The customer experiences of today can no longer be channel-bound, unidimensional and siloed. Building truly customer-centric customer experience calls for banks to reimagine their UI/UX strategies, and deliver distinct, cohesive and consistent experiences tailored to their customer personas. To do this, banks must embrace continuously iterative, nimble front-end innovation attuned to

the changing customer needs, in conjunction with backend optimization for modularity, adaptability and performance.

An experience stack built on a low-code, no-code platform, with a clear front-to-back decoupling and a headless architecture, is at the center of this overhaul. It allows banks to compose custom, consistent, and best-of-breed frontend experiences unhindered by back-end restrictions and differentiate with a persona centric approach of orchestrating contextual experiences at the right stage, time and touchpoint of customer journey.



As business models evolve, banking channels mix will starkly change

Source: Infosys Finacle and Qorus Research, 2024

Drive experience composability with Finacle

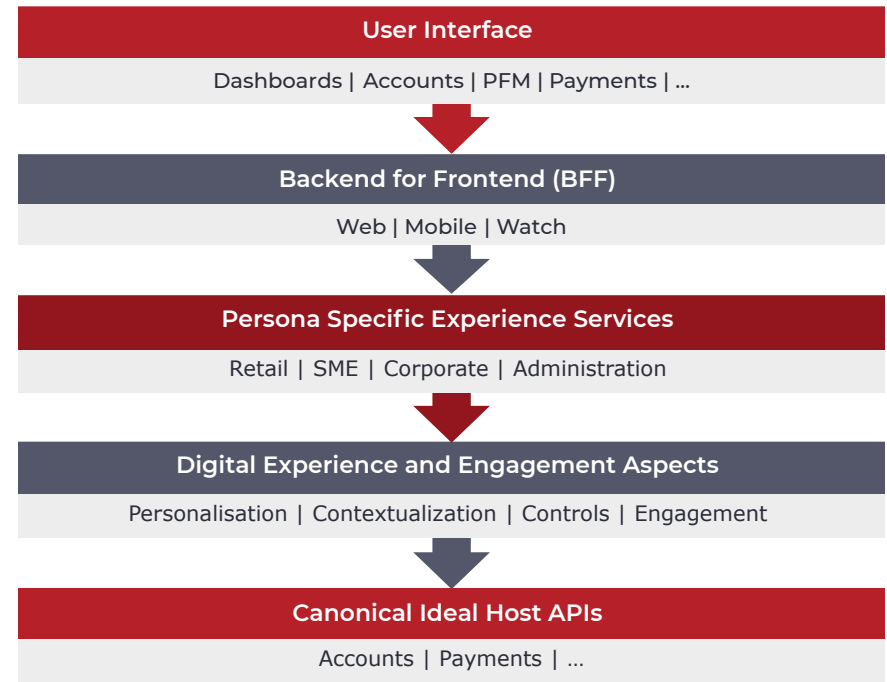
Finacle's advanced architecture helps banks unlock the value of experience composability. The multi-layered experience stack offers comprehensive capabilities to compose persona-specific, contextual user experiences.

A host of banking specific canonical models and compensatory functions help banks abstract the complexity of their host systems. The platform provisions for user-driven configurations to compose and offer persona specific experience services with digital personalization, contextualization and controls as key aspects.

A wide array of Backend for Frontend (BFF) APIs are also available, to power headless architecture. These APIs wire the experience services and enable banks to ensure seamless user interactions across multiple front-end applications.

What's more, banks can also leverage Finacle Experience Studio – A dedicated tool which enables them build custom user experiences for web and mobile in a drag-and-drop manner. The studio comes with a rich library of banking experience widgets, pre-integrated partner components, pre-built templates, themes and styling options.

Besides, Finacle also offers an innovative generative AI powered low-code UI generation capabilities.



Delivering next-gen customer experiences for banks worldwide

Santander UK

Upgraded digital channels to deliver best-in-class digital transaction banking experience for domestic and international customers

Reimagined the transaction banking experience for 20,000+ large SMEs and corporate companies with richer capabilities and much improved UI

Resulted in business growth, improved competitive positioning, with a steady increase in NPS, with lower operating cost, & reduction in risk



Discover Financial Services

Adopted Finacle in a headless manner to power its digital-only business

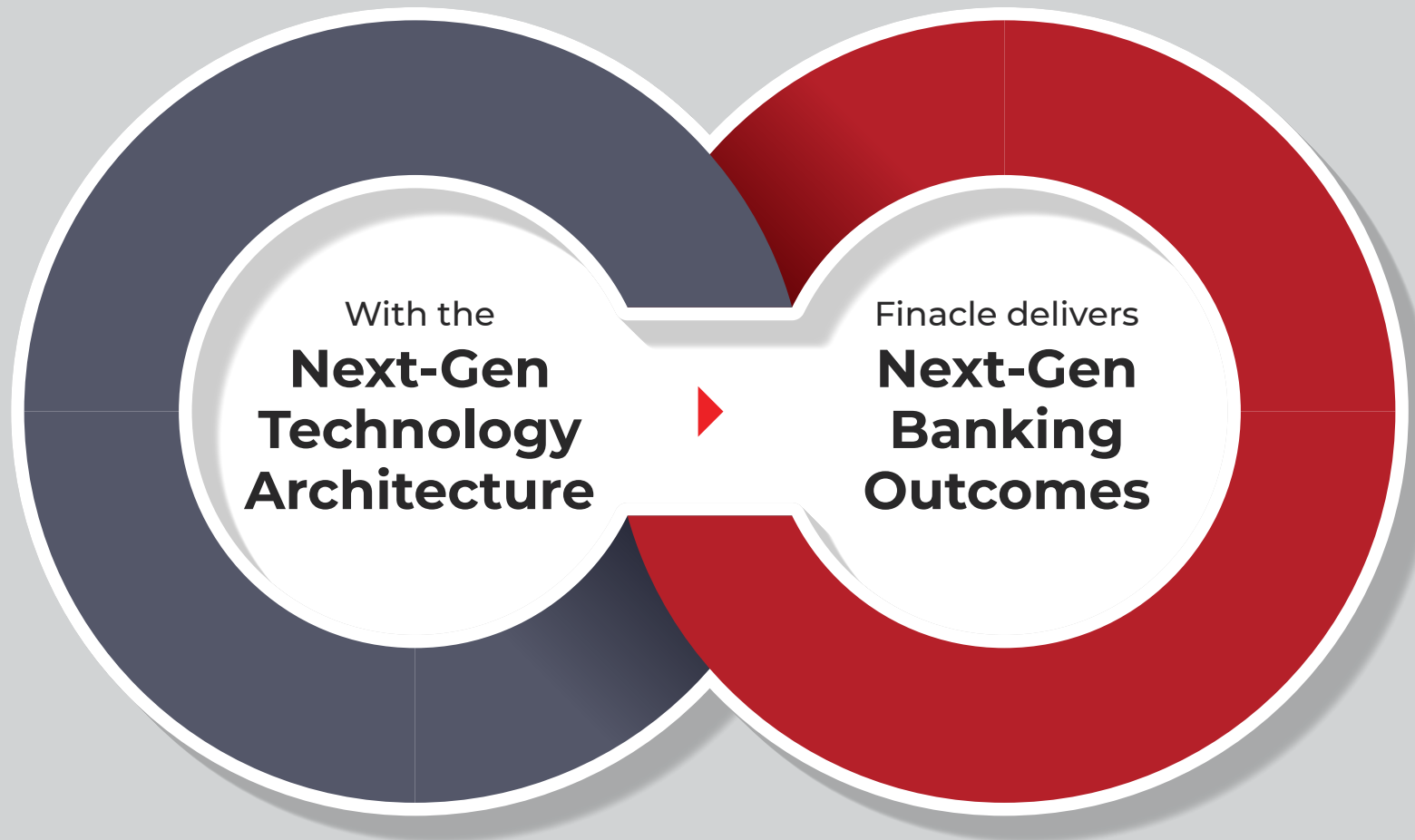


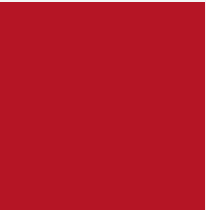
Discover's adoption of the Finacle solution is part of our continuous commitment to improve our customer experience. As our direct banking business grows, the Finacle platform will help us scale and optimize internal processes so that they keep pace with evolving consumer demands and market trends.



Carlos Minetti, Ex – President of Consumer Banking, Discover Financial Services







Banks face mounting pressure to rethink technology foundations - not just to keep pace with innovation, but to lead it. Elevating architectural maturity is no longer just a IT concern; it's a strategic enabler of business agility, customer-centricity, and operational excellence. As banking models evolve and expectations rise, the role of architecture is pivotal. Future-ready banking demands a technology stack that is agile, composable, intelligent, and resilient by design.

The twelve next-gen architecture parameters that shape the blueprint for the next-gen banking outcomes

1. Software that is composable, real-time, and microservices-driven

Composable architecture enables banks to build flexible, fit-for-purpose applications by integrating only what's needed. Real-time processing powers data leverage and dynamic decisioning. Microservices unlock agility through independent development and scaling of services.

2. Platform built on cloud-native, cloud-neutral, and multi-cloud constructs

Cloud-native platforms enable rapid development and deployments, critical for accelerating innovations. Being cloud-neutral avoids vendor lock-in, giving banks choice and flexibility. A multi-cloud strategy builds resilience by distributing workloads across providers.

3. Transaction processing with real-time posting, all-day bulk, and streaming support

Modern platforms must post transactions instantly while supporting bulk operations throughout the day. Streaming capabilities are essential for real-time foundations, operating on continuous data flows.

4. Availability and resilience with zero-downtime, CI/CD automation, and robust telemetry

Always-on banking demands zero-downtime updates, powered well by CI/CD led automations. Robust telemetry ensures system health is constantly monitored, catching issues before they disrupt service. Resilience becomes a core design principle, not an afterthought.

5. Ecosystem integration via REST APIs - synchronous, asynchronous, and standards-based

Modern banking thrives on ecosystem collaboration. RESTful APIs standardize integration; while support for both synchronous and asynchronous calls enables real-time engagement and background processing - all while staying standards-compliant.

6. Population scalability, driven by autonomous elastic scaling

Banks must scale to serve millions without performance dips. Population-scale readiness is paired with autonomous elastic scaling, which adjusts infrastructure in real time to match demand, ensuring cost-efficiency and customer experience.

7. Data, analytics, AI - layered, open source based, CQRS-enabled, and AI-ready

Decoupled data and analytics pipelines enable flexibility and speed. CQRS improves performance by separating reads and writes. An AI-ready foundation, often built on open-source tooling, unlocks intelligence from massive data volumes.

8. UI and UX flexibility through headless, decoupled design and low-code/no-code tools

A headless, decoupled front-end allows seamless experience delivery across channels. Low-code/no-code composition lets business users design and adapt UIs quickly, without backend changes.

9. Servicing models that span omnichannel, BaaS, and marketplace banking

Servicing must be seamless across channels, from branches to bots. BaaS opens up core capabilities to partners, enabling embedded finance. Marketplace models let banks orchestrate diverse offerings, becoming platforms themselves.

10. Products as configuration - composable, externally configurable, and customer-led

Products should be composed from modular capabilities and configured externally without touching code. This approach supports mass personalization, letting customers shape offerings to their needs - quickly and cost-effectively.

11. Multi-layered security with zero trust, secure SDLC, standards based, and independent validations led

Security must be embedded, not bolted on. Zero trust limits implicit access, while a secure SDLC ensures security across the build process. Standards-based controls and independent validations strengthen trust and compliance.

12. Software upgrades with no lock-ins and a single extensible codebase

Upgrades must be seamless and adaptable. A single codebase with extensibility supports continuous innovation. No lock-in subscription models empower banks to evolve at their pace, on their terms.

The twelve architectural parameters are not just ideals - they are practical imperatives for banks aiming to lead in a digital-first world. They define the foundations needed to drive innovation, scale with confidence, deliver exceptional customer experiences, and operate with resilience. Finacle's Digital Banking Suite brings these principles to life - embedding each of them into its core architecture to help banks modernize with speed, flexibility, and purpose. It's not just aligned with the future of banking - it's built for it.

Experience that speaks for itself

The industry-leading performance of Finacle clients reflects our commitment to scaling digital transformation. An assessment of the top 1000 banks globally revealed that institutions powered by Finacle enjoy

- 33 % higher returns on assets than others, with average returns on assets at 1.2% and **top-performing client at 4.7%**
- 19 % higher returns on capital than others, with average returns on capital at 15.6% and **top-performing client at 33%**
- 3.9 % points lesser costs to income ratio than others, with the average ratio at 47.2% and **top-performing client at 16%**

33 %

higher returns
on assets

19 %

higher returns
on capital

3.9 %

points lesser
costs to
income ratio

Source: Assessment of the top 1000 banks in the world by the Banker, 2020

Industry leading platform

Year after year, Finacle is chosen as a leader in independent industry assessment by major analyst firms.

Gartner

Positioned as a leader, for the 14th time in a row, in the 2022 Gartner® Magic Quadrant™ for Global Retail Core Banking

FORRESTER®

Rated as a leader in The Forrester Wave™: Digital Banking Processing Platforms, Q4 2024



Named as a Leader in the IDC MarketScape, Digital Core Banking Platforms 2024, for North America, EMEA, and APAC regions



Rated as a leader in among Cloud-based Core Banking Platforms, in the assessment - Omdia Universe: Cloud-based Core Banking, 2023

External logos are registered trademarks of the respective organizations

41




GOLD
WINNER
 Embedded Finance Innovation

Infosys | **Finacle**



- Lending Transformation – Union Bank of Philippines



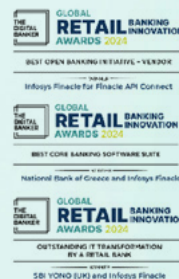
- UnionBank of the Philippines



- Infosys Finacle



- NewCastle Permanent
- SBI YONO (UK)
- Finacle Payments Suite
- Finacle API Connect
- Finacle Cloud Solution
- Finacle Data and AI Suite
- Finacle Wealth Management Solution



- Zand Bank



Embrace modern architecture, future-proof your banking platform

The digital banking revolution is on. Keeping pace with the changing market dynamics requires banks and FIs to strengthen the foundations by embracing a modern technology platform. Join the global community of banking leaders who are innovating and transforming with Finacle.

Start your journey, today.

Contact us: www.finacle.com | Finacle@edgeverve.com



finacle@edgeverve.com



www.finacle.com



www.linkedin.com/company/finacle



twitter.com/finacle



For more information, contact finacle@edgeverve.com

[www. finacle.com](http://www.finacle.com)

© 2025 EdgeVerve Systems Limited, a wholly owned subsidiary of Infosys, Bangalore, India. All Rights Reserved. This documentation is the sole property of EdgeVerve Systems Limited ("EdgeVerve"). EdgeVerve believes the information in this document or page is accurate as of its publication date; such information is subject to change without notice. EdgeVerve acknowledges the proprietary rights of other companies to the trademarks, product names and such other intellectual property rights mentioned in this document. This document is not for general distribution and is meant for use solely by the person or entity that it has been specifically issued to and can be used for the sole purpose it is intended to be used for as communicated by EdgeVerve in writing. Except as expressly permitted by EdgeVerve in writing, neither this documentation nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, printing, photocopying, recording or otherwise, without the prior written permission of EdgeVerve and/or any named intellectual property rights holders under this document.